Question 5
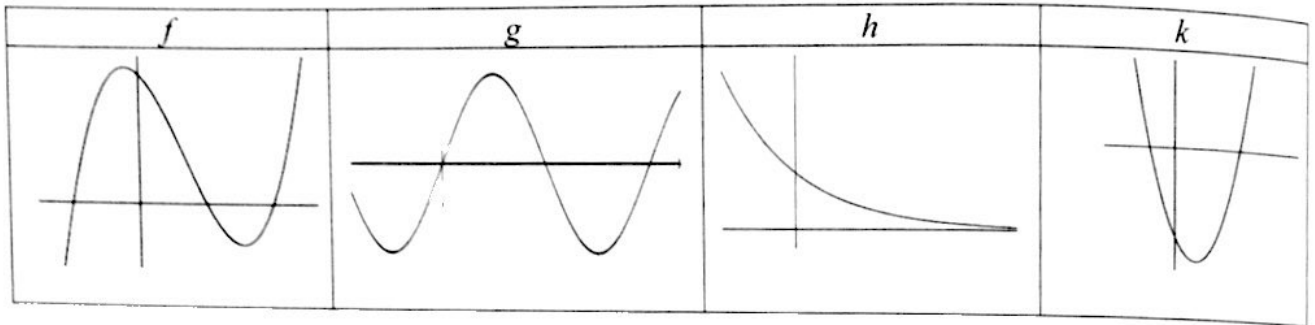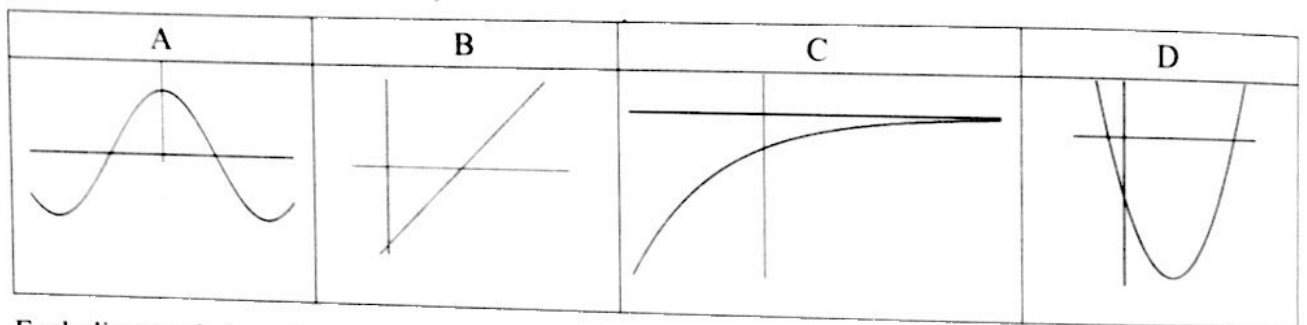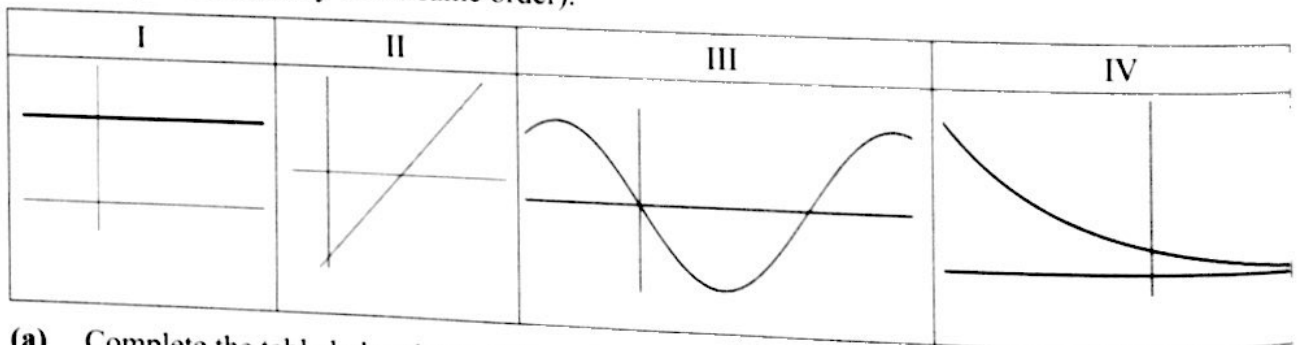(25 marks)

Each diagram below shows part of the graph of a function. Each of these functions is either quadratic or cubic or trigonometric or exponential (not necessarily in that order).

f	g	h	k

Each diagram below shows part of the graph of the first derivative of one of the above functions (not necessarily in the same order).

A	B	C	D

Each diagram below shows part of the graph of the second derivative of one of the original functions (not necessarily in the same order).

I	II	III	IV

(a) Complete the table below by matching the function to its first derivative and its second derivative.

Type of function	Function	First derivative	Second derivative
Quadratic	k	B	I
Cubic	f	D	II
Trigonometric	g	A	III
Exponential	h	C	IV

(b) For **one** row in the table, explain your choice of first derivative and second derivative.

Mathematics Leaving Certificate

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